

ABSTRACT OF THE DISCLOSURE

5 Axial flow fan propellers are provided with a roughened  
portion along the trailing edge of the fan blades on the  
pressure side of the blade to minimize tonal acoustic  
emissions generated by laminar boundary layer vortex  
shedding. The roughened portion may be provided by trip  
surfaces formed in the blades, by strips of abrasive  
material adhered to the blades along the trailing edges,  
respectively, by parallel or cross-hatched serrations in the  
blades or by upturned or offset trailing edges of the  
10 blades. The height of the roughened portion should be about  
equal to the boundary layer thickness of air flowing over  
the blade surfaces during operation of the fan. The fan  
propellers are particularly advantageous in heat exchanger  
applications, such as residential air conditioning system  
15 condenser units.

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